

WHAT IS CLAIMED IS:

1. An optical waveguide module comprising
an optical waveguide component having an auxiliary
5 connection member connected to an end of an optical waveguide
chip, and

at least one array member for attaching an end of at
least one optical fiber to a connection member to be
connected to said auxiliary connection member, wherein

10 said optical waveguide component and said array member
are connected to each other via said auxiliary connection
member and said connection member, and

an optical waveguide exposed from the end of said
optical waveguide chip is in direct contact with a core of
15 said optical fiber exposed from an end of said array member.

2. An optical waveguide module comprising
an optical waveguide component having an auxiliary
connection member connected to an end of an optical waveguide
chip, and

20 at least one array member for attaching an end of at
least one optical fiber to a connection member to be
connected to said auxiliary connection member, wherein

said optical waveguide component and said array member
are connected to each other via said auxiliary connection
25 member and said connection member,

a presser member is disposed to press at least one of
said optical waveguide chip and said optical fiber in a
direction of connection, and

an optical waveguide exposed from the end of said
30 optical waveguide chip is in direct contact with a core of
said optical fiber exposed from an end of said array member.

3. The optical waveguide module according to claim 2,
wherein

said presser member is disposed across the connection

between said optical waveguide chip and said optical fiber.

4. The optical waveguide module according to claim 2,
wherein

said presser member is provided on said array member.

5 5. The optical waveguide module according to claim 2,
wherein

said array member allows a region around the core
including the core of said optical fiber to project from an
end face of said connection member.

10 6. The optical waveguide module according to claim 5,
wherein

said optical fiber has an outer peripheral edge being
cut away.

15 7. The optical waveguide module according to claim 5,
wherein

said optical fiber has said region around the core
being reduced in diameter relative to a diameter of a
cladding and/or a center of said region around the core is
made eccentric with respect to a center of an outer periphery
20 of said cladding, said region around the core being projected
in each case.

8. The optical waveguide module according to claim 6,
wherein

said optical fiber has said region around the core
25 being reduced in diameter relative to a diameter of a
cladding and/or a center of said region around the core is
made eccentric with respect to a center of an outer periphery
of said cladding, said region around the core being projected
in each case.

30 9. The optical waveguide module according to claim 5,
wherein

said optical waveguide component and said array member
are protruded so as to prevent said projecting optical fiber
from contacting with said auxiliary connection member.

10. The optical waveguide module according to claim 6,
wherein

said optical waveguide component and said array member
are protruded so as to prevent said projecting optical fiber
5 from contacting with said auxiliary connection member.

11. The optical waveguide module according to claim 5,
wherein

a glass layer is interposed in between said auxiliary
connection member and said optical waveguide chip so as to
10 prevent the region around the core of said optical fiber from
contacting with said auxiliary connection member.

12. The optical waveguide module according to claim 6,
wherein

a glass layer is interposed in between said auxiliary
connection member and said optical waveguide chip so as to
15 prevent the region around the core of said optical fiber from
contacting with said auxiliary connection member.

13. The optical waveguide module according to claim 2,
wherein

said optical waveguide component is formed so as to
allow a region around said optical waveguide including said
optical waveguide to project from the other part.

14. The optical waveguide module according to claim 2,
wherein

25 said optical waveguide component has said auxiliary
connection member bonded thereto by means of an adhesive
layer 20 μ m or less in thickness.

15. The optical waveguide module according to claim 2,
wherein

30 in the connection between said optical waveguide
component and said array member, an optical signal passing
through where the optical waveguide formed in said optical
waveguide component is in direct contact with the core of
said optical fiber has a maximum power of 300mW or more per

port.

16. An optical waveguide module comprising
a first array member with a plurality of optical fibers
having ends attached to a first connection member,

5 a second array member with at least one optical fiber
having an end attached to a second connection member, and

an optical waveguide chip having an input and output
end face and an optical waveguide for multiplexing a
plurality of optical signals having different wavelengths

10 inputted from a plurality of input ports to output a
resulting optical signal from at least one output port,

said optical waveguide module wherein

said first array member is bonded with an adhesive to
said input end face of said optical waveguide chip,

15 an auxiliary connection member is attached to said
output end face of said optical waveguide chip,

said second connection member is connected to said
auxiliary connection member,

20 said second array member is coupled to said output end
face of said optical waveguide chip via said second
connection member and said auxiliary connection member,

a presser member for pressing said auxiliary connection
member and said second array member in a direction of
connection is disposed across said auxiliary connection
25 member and said second array member, and

a core of said optical waveguide exposed from said
output end face of said optical waveguide chip is in direct
contact with a core of said optical fiber exposed from an end
of said second array member.

30 17. The optical waveguide module according to claim 16,
wherein

said presser member is disposed across connections
between said optical waveguide chip and said first array
member and between said optical waveguide chip and said

second array member.

18. The optical waveguide module according to claim 16,
wherein

an optical signal passing through where the core of
5 said optical waveguide is in direct contact with the core of
said optical fiber has a maximum power of 300mW or more per
port.

19. The optical waveguide module according to claim 16,
wherein

10 an optical signal passing through where the core of
said optical waveguide is in direct contact with the core of
said optical fiber has a maximum power of 300mW or more per
port at said input end face, and

an optical signal passing through where the core of
15 said optical waveguide is in direct contact with the core of
said optical fiber has a maximum power of 300mW or more per
port at said output end face.